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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,367	HILL ET AL.	
	Examiner	Art Unit	
	JASON L. LAZORCIK	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-12, 14, and 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Geddes (US 6,481,353).

With respect to claim 1, Geddes teaches a method for manufacturing a glass panel (Col. 3, lines 8-19) which is partially printed with a plurality of layers in the form of a print pattern (Col. 2, lines 12-28 and Figs 1 and 6A). Geddes teaches application of at least one layer comprising a “ceramic ink" comprising glass frit (col. 3, line 20 to col. 5, line 63). Geddes instructs that the glass sheet with the plurality of layers is subjected to a heat treatment or "firing" step wherein the frit in at least one of the layers melts thereby fusing the plurality of layers to the glass substrate and binding together the plurality of layers (col. 7, line37-col. 8, line 8; col. 16, line 45-54).

With respect to step (iii) as recited in claim 1, lines 10-14, it is noted that each of the flux, underlayer (col. 3, line 20 to col. 5, line 63), and covercoat layers (see col. 9,

line 49 to col. 10, line 15) each comprise binders, waxes, and or plastics which are burnt off or vaporized upon firing of the ceramic label (again, see for example col. 9, line 49 to col. 10, line 15). It is further evident that at least a portion of one of said flux layers, underlayers, or covercoat may reside outside the print pattern of at least one of the printed color layers or opassification layers. It follows that at least a portion of at least one of the layers residing outside the print pattern of at least one of the layers may be burnt off or vaporized during the heat treatment of the label.

In addition, and although it is not required to support the instant rejection, Applicants Specification makes plain that removal of spurious or unwanted depositions by selective force (see paragraph [0002]) is well known in the art as is the burn out of "transfer process adhesive, covercoat, downcoat, and ceramic ink layers during firing and annealing of the glass substrate.(see paragraph [0022]).

With respect to claim 2, see any of layers in any of figures 1-6 which by virtue of physical adjacency share at least a certain length of a common boundary.

Regarding claim 3, see figure 7 and col. 13, line 60 to col. 14, line 56

Regarding claim 4, see disclosure regarding composition of flux layers which may comprise resin among other materials col. 4, lines 43-54 and col. 6, lines 36-44

Regarding claim 5, see the preliminary heat treatment, col. 19, lines 5-6, which is above the decomposition temperature of the resin binder material as noted in col. 9, line 49 to col. 10, line 15.

With respect to claims 6-8, 20, see col. 7, line 37 to col. 8, line 8. It is the Examiners assessment that the heat treatment proceeds through the melting point of the resin binder and therefore said molten resin is reasonably construed to at least nominally contribute to intermixing of frit layers with the materials of adjacent layers.

With respect to claim 9, see the opassification layer; col. 5, line 64 to col. 6, line 55 and/r the color image layers col. 6, line 66 to col. 8, line 59.

Regarding claim 10, see above comments with respect to binding of layers upon firing.

Regarding claims 11-12, see col. 6, line 66 to col. 8, line 59.

Regarding claim 14, see col. 5, line 64 to col. 6, line 55.

With respect to claims 16-17, 21, 22, Geddes teaches that the plurality of layers may be transferred as a decal or "printed" onto the substrate (col. 15, line 36 to col. 16, line 63). Fabrication of the decal is construe to comprise application of at least one of the layers to a surface of at least another of the layers remote from the glass sheet per claim 22.

Regarding claim 23, see figure 7

With respect to claim 24, see above discussion on claim 1

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 13, 15, 18, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geddes (US 6,481,353).

With respect to claim 13, 25-28, Geddes (US 6,481,353) is silent regarding the printing of pigment outside of a designated print area of the printed pattern however such a limitation is not construed to patentably distinguish the recited invention in view of the ordinary level of skill in the art at the time of the invention. That is, one skilled in the art would have found it obvious to provide varying pattern coverage for each of the plurality of colorant layers (see figure 7) in order to build up a desired image. Application of at least one of these layers or the opassification layer outside of the coverage of at least one of the other stacked layers would be viewed as conventional and as an obvious extension over the Geddes disclosed process.

Regarding claim 15, Geddes is silent regarding the use of black ceramic in the opassification layer, see col. 5, line 64 to col. 6, line 55, however one of ordinary skill

however such a modification would have been construed as obvious extension over Geddes for one seeking to provide a black contrast layer.

Regarding claim 18, Geddes is silent regarding a subsequent quenching operation applied to the glass sheet after application of the plurality of layers and after the firing process. Applicants Specification (see [0021]) notes that toughening or tempering a sheet of glass after firing of a ceramic decal is conventional practice in the arts. Further, one skilled in the glass arts would appreciate that subjecting a glass sheet to the elevated temperatures in the decal firing operation may relax internal stresses within a glass sheet and that a quenching operation such as presently claimed would be viewed as an obvious extension over the Geddes processes as a means to establish or re-establish a tempered state in a glass sheet.

Claims 19, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geddes (US 6,481,353) as applied to claim 1 above, and further in view of Hill (WO 00/460043 published August 10, 2001; please note all column and line citations are made with reference to corresponding United States patent publication US 6,824,639).

As noted above, Geddes teaches essentially every aspect of Applicants recited invention including, inter alia, application of a plurality of layers to a glass substrate and firing the layered structure to yield a ceramic decal. Geddes teaches that at least a portion of at least one of the layers is removed or vaporized upon firing of the substrate

and Applicants Specification makes plain that physically abrading the substrate to remove spurious or unwanted portions of the decal is conventional practice in the art. Geddes is silent regarding the specific methods of removing unwanted portions of the ceramic decal as recited in claim 19, namely by application of vacuum, water jetting, or air jetting.

Hill teaches a closely related method for applying ceramic decals to refractory substrates followed by firing of the decal. Hill explicitly notes that unwanted ink regions in the decal may be selectively removed by using abrading nozzles and specifically by application of high pressure air nozzles or "air jetting". Where Hill notes that air jetting may be employed to the selective removal or unwanted portions of the ceramic decal, one skilled in the art would have found it obvious to try such a method for the similar selective removal of portions of the Geddes decal.

1. Claims 1, 2, 4-6, 9-12, and 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. WO 00/46043.

2. **Regarding claims 1, 2, 9, 10, 11, and 16, 17 and 21-24,** Hill et al. disclose a method of partially imaging an imaging surface of a substrate with a plurality of layers of marking material which have at least one common boundary within a print pattern that covers only certain portions of the substrate and not other portions of the substrate (Abstract). The invention pertains to the partial imaging of a substrate with superimposed layers of marking material in the form of a print pattern with substantially

exact registration (pg 1 lines 3-5). The method can be used to make vision control panels, especially glass printed with ceramic ink (pg 1 lines 5-6).

Referring to Figures 5D-F, Hill et al. disclose the transfer of decal 27 comprising layers 12, 14, 16, 38 and 36 to glass sheet 40 (pg 40 lines 11-22). Layers 12, 14 and 16 are superimposed ceramic ink layers (pg 40 lines 11-13). Ceramic ink layers 12, 14 and 16, as transferred from decal 27 onto glass sheet 40, define the print pattern on glass 40 and subsequently tempered glass 50 (Figure 5E & F, pg 40 lines 17-22). Decal 27 and glass sheet 40 are subjected to a glass tempering heat treatment burning off downcoat 38 and covercoat 36 leaving ceramic ink layers 12, 14 and 16 fused into tempered glass 50 in the required print pattern in substantially exact registration (Figure 5F, pg 40 lines 19-22). Note that parts of layer 38, burned off during the heat treatment, exist outside of the print pattern as defined by ceramic ink layers 12, 14 and 16 (Figure 5D & E). Note that burning and vaporizing constitute the same process.

Hill teaches that the covercoat and downcoat layers are fabricated from frangible organic materials which are burnt off or vaporized during the heat treatment process. Therefore, Hill is silent regarding the step wherein parts of another of said layers outside the print pattern are burnt off or vaporized during the heat treatment and wherein the molten glass frit “binds another of said layers within the print pattern" during the heat treatment.

The closely related ceramic decal printing technique to Geddes discloses covercoat and downcoat layers which comprise among other materials a glass flux and

various binder materials. Specifically, with respect to step (iii) as recited in claim 1, lines 10-14, Geddes teaches that each of the flux, the flux underlayer (col. 3, line 20 to col. 5, line 63), and the flux covercoat layers (see col. 9, line 49 to col. 10, line 15) each comprise binders, waxes, and or plastics which are burnt off or vaporized upon firing of the ceramic label (again, see for example col. 9, line 49 to col. 10, line 15). It is further evident that at least a portion of one of said flux layers, underlayers, or covercoat may reside outside the print pattern of at least one of the printed color layers or opassification layers. It follows that at least a portion of at least one of the layers residing outside the print pattern of at least one of the layers may be burnt off or vaporized during the heat treatment of the label. Further, At least a portion of the flux material in at least one of the covercoat and downcoat layers will bind to the glass frit during firing or a heat treatment.

Where Geddes demonstrates that covercoat and downcoat layers comprising glass flux and frangible binder materials are effective to application of ceramic labels on glass substrates, one skilled in the art would expect a similar successful application of said layer materials in the process as disclosed by Hill. In short, Applicants recited invention is construed to constitute no more than the substitution of one known covercoat or downcoat material (e.g. the Geddes flux based materials) for the wholly frangible materials employed in Hill in a substantially similar manner with the reasonable expectation for successfully binding the fired ceramic label to the glass substrate. In short, Applicants recited invention is not construed to be patentably distinguished over

the Hill disclosed process when viewed in light of the closely related ceramic label manufacturing process of Geddes.

Hill et al. do not explicitly disclose that ceramic ink layers 12, 14, and 16 comprise glass frit, pigment and resin matrix material and that during heat treatment glass frit melts causing the subsequent fusing/binding of the layers onto the sheet of glass within the print pattern.

Hill et al. disclose, however, that ceramic ink typically comprises glass frit, metal oxide pigments and a binding medium of solvent, resin and plasticizer (pg 8 lines 3-5). Hill et al. further disclose that after ceramic ink is applied to a normal sheet of glass, the printed glass is typically subjected to a thermal regime which burns off all components of the ceramic ink other than glass frit and pigment and melts the glass frit and fuses the remainder of the ink onto the glass (pg 8 lines 11-16).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use ceramic ink comprising glass frit, metal oxide pigments and a binding medium containing resin as taught by Hill et al. in Hill et al.'s process. The rationale for combining is based on the teachings of Hill et al. that use of a ceramic ink comprising glass frit, metal oxide pigments and a binding medium of solvent, resin and plasticizer in the printing of glass predictably results in a ceramic ink that can be effectively printed onto to a normal sheet of glass by heat treatment via melting of the glass frit and fusing of the remainder of the ink onto the glass (pg 8 lines 3-5, 11-16).

3. **Regarding claim 4,** Hill et al. in view of Hill et al. disclose all limitations of claim 1 (see paragraph 6 above).

Hill et al. further disclose the introduction of one or more interlayers of clear glass flux or glass frit with a clear medium, typically, of solvent, resin and plasticizer noted as being essentially a clear ceramic ink without pigments (pg 29 lines 7-11). Hill et al. disclose introduction of these interlayers of clear ceramic ink as a way of separating layers of differently colored ceramic ink in order to reduce the risk of intermixing during heat treatment (pg 29 lines 7-11). Note that introducing such clear ceramic ink interlayers between the ceramic ink layers of the process described in 6 above would inherently place such layers in a position of defining the print pattern. Hill et al. further disclose that all of the methods described enable the production of dot, line and other print patterns comprising discrete elements which may be held in the desired spatial relationship (pg 29 lines 19-21).

4. **Regarding claims 5 and 18,** Hill et al. in view of Hill et al. disclose all limitations of claim 1 (see 6 above).

Hill et al. do not disclose the following: applying a preliminary heat treatment to a layer comprising glass frit and resin matrix such that the resin matrix is substantially removed from the layer during the preliminary heat treatment; after burning off of parts of layers outside of the print pattern subjecting the sheet of glass to a glass toughening process comprising a further heat treatment process and subsequent cooling by cold air quenching.

Hill et al. disclose heat treating a printed sheet of glass in two different temperature regimes (pg 8 lines 11-21). The first temperature regime (referred to as an ink fusing regime) typically involves temperatures up to 576°C which burns off all components of the ceramic ink other than glass frit and pigment and melts the glass frit and fuses the remainder of the ink onto the glass. The second temperature regime (referred to as a tempering or toughening regime) typically involves temperatures between 670°C and 700°C for tempering the glass followed by fast cooling, typically by cold air quenching (pg 8 lines 11-21). The tempering regime imparts a considerably improved flexural strength to the resultant tempered glass (pg 8 lines 24-27). Hill et al. further disclose that the tempering regime may be carried out after a separate ink fusing regime (pg 8 lines 28-30).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to subject the ceramic ink printed glass sheet in Hill et al. to an ink fusing regime prior to a glass tempering regime as taught by Hill et al. The rationale for combining is based on the teaching of Hill et al. that doing so will predictably result in effectively burning off all components of the ceramic ink other than glass frit and pigment and fusing the remainder of the ink onto the glass prior to tempering the glass (pg 8 lines 11-30). Further rationale for combining is based on the teaching of Hill et al. that cold-air quenching predictably results in a fast way of cooling the glass sheet from the tempering regime facilitating the strengthening of the glass sheet (pg 8 lines 11-27).

Note that when the ink fusing regime is carried out prior to the glass tempering regime, the ink fusing regime (in which the resin matrix is burned off) constitutes a preliminary heat treatment.

5. **Regarding claim 6 and 20,** Hill et al. in view of Hill et al. disclose all limitations of claims 1 and 9 (see 6 above), however, do not explicitly disclose the migration of molten glass frit from one ceramic ink layer into another or the settling of pigment into the molten glass frit. Given that ceramic link layers 12, 14 and 16 (comprising glass frit and pigment) lie one on top of the other (Figure 5D-F), migration of molten glass frit and settling of pigment into the molten glass frit would, by definition, occur due to gravity upon melting of the glass frit in these layers during the tempering regime in which ceramic ink layers 12, 14 and 16 are fused into tempered glass 50 (pg 40 lines 19-22).

6. **Regarding claim 12,** Hill et al. in view of Hill et al. disclose all limitations of claim 11 (see 6 above) and further disclose covercoat 36, typically a methacrylate lacquer (pg 40 lines 16-17). Hill et al. do not explicitly disclose that covercoat 36 does not contain glass frit, however, covercoat 36 is burned off during the tempering heat treatment (pg 40 lines 19-22) and therefore, by definition, does not contain glass frit.

7. **Regarding claim 19,** Hill et al. in view of Hill et al. disclose all limitations of claim 1 (see 6 above).

Hill et al. do not disclose removing the parts of a layer outside of the print pattern by a subsequent finishing process comprising applying a vacuum, water jetting or air jetting.

Hill et al. disclose a method 3.2 (pg 22 line 21 to pg 23 line 6) of partially imaging a substrate with superimposed layers whereby unwanted ink between the selectively applied adhesive (marking the desired print pattern) can be removed by a number of methods including air jetting or water jetting.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to remove unwanted ink outside of a print pattern using air jetting or water jetting as taught by Hill et al. in Hill et al.'s process. The rationale for combining is based on the teaching of Hill et al. that doing so will predictably result in an effective way of removing unwanted ink outside of the print pattern (pg 22 line 31 to pg 23 line 6).

8. Claims 3, 14 & 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. WO 00/46043 as applied to claims 1, 2, 4-6, 9-12, 16-24 above, and further in view of Whitehead US Patent 4,321,778.

9. **Regarding claims 3, 14 and 15,** Hill et al. in view of Hill et al. disclose all limitations of claim 1 (see paragraph 6 above).

Hill et al. do not disclose the following: a plurality of single layers of different color having spaced apart boundaries; a print pattern defined by white ceramic ink comprising glass frit and resin matrix material; and a print pattern defined by black ceramic ink comprising glass frit and resin matrix material.

Whitehead discloses a glass pane whereby a broken pattern of white and black opaque material is applied to the surface or surfaces of the glass pane (Abstract). The pattern can be formed by dots, lines or any suitable shapes made up of white and black opaque material (Column 2, lines 10-12). Single layer dots of black and white opaque

material defining a print pattern on opposite sides of a glass pane are illustrated in Figures 1B, C and I (Column 2, lines 14-20). According to one embodiment, the black and white opaque material is ceramic ink applied to the glass surface by either silk-screening or a decal method (Column 2, lines 43-46). Whitehead further discloses use of such a glass pane to allow persons on one side of the pane to see through to the other side without undue loss of clarity while persons on the other side are not unduly distracted by reflections from the pane and movement of the persons on the other side (Column 1 lines 7-23).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print single layers of black and white ceramic ink dots defining a print pattern on opposite sides of a glass pane as taught by Whitehead in Hill et al.'s process. The rationale to combine is based on the teachings of Whitehead that a such a method of printing a glass pane will predictably result in a glass pane that will allow persons on one side of the pane to see through to the other side without undue loss of clarity while persons on the other side are not unduly distracted by reflections from the pane and movement of the persons on the other side (Column 1 lines 7-23).

10. Claims 7, 8 & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. WO 00/46043 as applied to claims 1-6, 9-12 & 14-24 above, and in view of Yamano et al. US Patent 4,971,858.

11. **Regarding claims 7 and 8,** Hill et al. in view of Hill et al. disclose all limitations of claims 1 and 11 (see 6 above).

Hill et al. do not disclose the melting of resin during the heat treatment process to form liquid resin.

Yamano et al. disclose a method for forming and fixing a pattern onto a substrate in which the pattern is formed using a sheet (Abstract). The pattern-forming sheets are disclosed as being useful for preparation of a design for a figure to be formed on porcelain, glassware, enameled articles and the like or for formation of patterns for bar code labels on substrates of ceramics or other heat-resistant materials (Column 6 lines 16-23). The ink used for the pattern-forming sheets is disclosed as comprising glass frit and inorganic pigment, metallic powder, metallic oxide powder or the like (Column 4 lines 41-45). Yamano et al. further disclose that the ink preferably contains an organic binder and/or wax including polyamide resins, petroleum resins, styrene resins, paraffin wax and carnauba wax (Column 5 lines 17-22).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a resin binding matrix comprising paraffin wax and/or carnauba wax as taught by Yamano et al. in the ceramic ink in Hill et al.'s process. The rationale to combine is based on the teaching of Yamano et al. that use of such binders in ceramic ink will predictably result in an ink useful for pattern-forming (Column 5 lines 17-22).

Since carnauba wax and paraffin wax both have melting points above room temperature, heating of a ceramic ink printed glass surface where the ink contained one or both of these resin matrix materials will, by definition, result in melting of the resin matrix to form liquid resin before subsequent burning off of the resinous material as the

temperature increases. The liquid resin produced during heating and prior to burning off will, by definition, carry particles of glass frit from the uppers layers of ceramic ink to the lower layers of ceramic ink due to gravity.

12. **Regarding claim 13,** Hill et al. in view of Hill et al. disclose all limitations of claims 1 & 11 (see paragraph 6 above).

Hill et al. do not disclose the burning off of matrix leaving pigment on the sheet of glass outside of the print pattern.

Yamano et al. disclose a method for forming and fixing a pattern onto a substrate in which the pattern is formed using a sheet (Abstract). The pattern-forming sheets are disclosed as being useful for preparation of a design for a figure to be formed on porcelain, glassware, enameled articles and the like or for formation of patterns for bar code labels on substrates of ceramics or other heat-resistant materials (Column 6 lines 16-23). In Example 4 (Column 10 lines 20 to page bottom), Yamano et al. disclose the printing of a bar code pattern onto the surface of a glass product. The pattern design 5 is defined by black ceramic ink comprising frit and binder (Figure 4 & Table 2) on a white ceramic ink background comprising frit and binder, referred to as an ink-receiving layer 9 (Figure 4 & Table 1). Both the design layer 5 and ink-receiving layer 9 are transferred from the sheet illustrated in Figure 4 onto the glass sheet via adhesive layer 11 after removing second releasable substrate 13 and then subjected to heat treatment (Column 10 lines 20 to page bottom). During heat treatment the adhesive and resin binder are completely burned off leaving a black bar code pattern on a white background, the white background existing outside of the print pattern defined by the

black ink. Yamano et al. further disclose that the black bar code pattern is firmly held on the white substrate with clear contrast (Column 10 lines 64 to page bottom).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the method of burning off binder matrix leaving white pigment on a sheet of glass outside of a print pattern defined by black pigment as taught by Yamano et al in Hill et al.'s process. The rationale for combining is based on the teaching of Yamano et al. that doing so will predictably result in a black bar code pattern firmly held onto a white substrate with clear contrast (Column 10 lines 64 to page bottom).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1-2, 17-19, and 21-28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 22, 25, 26-29 of U.S. Patent No. 6,824,639. Although the conflicting claims are not identical, they are not patentably distinct from each other. That is one skilled in the art of ceramic decals would have deemed the instant claimed invention as an obvious extension over that disclosed in the noted claims of the '639 patent

Claims 1-28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 22, 25, 26-29 of U.S. Patent No. 6,824,639 in view of Geddes (US 6,481,353) as applied under 35 U.S.C. 102 above.

The reference to Geddes is directed to deposition of a ceramic label onto a glass substrate in a process which one skilled in the art would recognize as very closely related both to the subject matter of the ‘639 patent as well as to Applicants instant recited invention. As made plain above in the prior art rejection over Geddes, all features recited in the pending Application which are not expressly or implicitly encompassed by the above noted claims of the ‘639 patent are rendered obvious in view of the Geddes reference.

Response to Arguments

Applicant's arguments filed August 6, 2009 have been fully considered .

Applicant alleges that the covercoat and the undercoat layers recited in the Hill publication vaporize and therefore can not be fused together with the sheet of glass or the other layers of the ceramic label structure. Applicant therefore concludes that said covercoat and undercoat layers can not read upon the "another of said layers" and “said another of said layers” as recited in claim 1.

Applicants’ arguments on this matter have been fully considered but are moot in view of the new grounds of rejection above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. LAZORCIK whose telephone number is (571)272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason L Lazorcik/
Primary Examiner, Art Unit 1791